Drug Eluting Stent (DES) in the treatment of Peripheral Arterial Disease in lower limbs in Colombia. **METHODS:** An analytical decision model was considered with Target Lesion Restenosis (TLR) avoided and total cost at the end of a two year period as endpoints. An Excel model was developed. For the effectiveness data a Meta-analysis was done and second revascularization procedures probabilities were taken with KOL criterion. A public payer perspective was assumed. Total costs were taken from reimbursement values charged to payers. Because effectiveness and cost were taken as unique values at the end of the two years with no cycles, discount rate was no applied. The sensitivity Univariate analysis was done for DEB vs. PTA. For the Probabilistic Sensitivity Analysis a Monte Carlo Simulation with 1000 iterations was done. **RESULTS:** TLR Avoided probability with DEB was 0.86 vs. 0.60, 0.72 and 0.81 for PTA, BMS and DES respectively. DEB total cost was US$4.441 vs. US$3.893 for PTA, US$4.826 for BMS and US$5.599 for DES. Respect to PTA, DEB ICER was US$2.142, US$7.776 for BMS and US$8.204 for DES. In univariate sensitivity the DEB ICER was especially sensible to total costs for both therapies and for the TLR probability for PTA. The Willingness-To-Pay (WTP) acceptability curves show that DEB, compared to other therapies, had a higher probability to be accepted for all the WTP values above US$2.500, reaching a probability of 94% for US$10.000 WTP value **CONCLUSIONS:** DEB have better cost-effectiveness ratio than PTA, with an ICER of US$2.142 and was dominant over BMS and DES. The univariate sensitivity analysis shows the ICER of DEB vs. PTA was especially sensible to the total costs of the therapies and the effectiveness of PTA.

PCV69

A HYBRID COMPARISON OF COST-EFFECTIVENESS OF TRANSCATHETER AORTIC VALVE REPLACEMENT BETWEEN RANDOMIZED CLINICAL TRIALS AND REAL WORLD PRACTICE IN TREATING PATIENTS WITH SEVERE AORTIC STENOSIS

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OBJECTIVES: To fill the knowledge gap of cost-effectiveness result between randomized clinical trials and real world practice in treating patients with medically managed severe aortic stenosis, a hybrid comparison model, using a US societal perspective, was conducted. **METHODS:** The cost-effectiveness of Transcatheter Aortic Valve Replacement (TAVR) was compared to medical management using the 2010 PARTNER trial (Cohort B) result and 2003 Medicare claims analysis (comparison group) on a population with severe aortic stenosis (AS). Survival rate, quality of life , medical resource use and related hospital and physician cost were reported in the PARTNER trial. The Medicare claims analysis presented survival rate and overall cost in treating severe AS, which was converted to 2010 dollars. To calculate quality-adjusted life expectancy, and estimate the incremental cost-effectiveness, QALY for Medicare claims analysis was derived from the control arm of PARTNER trial. The effect of uncertainty in model parameters was examined through one way sensitivity analysis and probabilistic sensitivity analysis (PSA). **RESULTS:** Over a two-year time horizon, in the base case the cost of TAVR was higher than the comparison group by $65,813. An additional 0.5 quality-adjusted life years was gained in the TAVR group. The resultant incremental cost-effectiveness ratio (ICER) was $ 132,155 per QALY gained for patients treated with TAVR vs. managed medically. Given $150,000 as the acceptability threshold for ICER willingness to pay, 66.4% iterations in PSA were favorable toward TAVR. **CONCLUSIONS:** In real world practice where it is difficult to qualify patients with rigid criteria, our result shows that TAVR fell at the borderline of the cost effectiveness acceptability threshold. Although this study only considers the first two years of treatment, given the relatively short 2-3 year life expectancy of medically managed patients with severe AS, this result highlights the importance to have a strict guideline for TAVR to ensure its cost effectiveness.

PCV70

COST-EFFECTIVENESS ANALYSIS OF ALTERNATIVE SCREENING AND TREATMENT STRATEGIES FOR FAMILIAL HYPERCHOLESTEROLEMIA IN THE UNITED STATES

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OBJECTIVES: Familial hypercholesterolemia (FH) is a genetic disease that causes build-up of low-density lipoprotein cholesterol and premature coronary heart disease. Taken regularly, statins can lower cholesterol and risk of heart attack and stroke in FH individuals and high cholesterol individuals with no FH gene mutations. However, the US FH diagnosis rate is only 20% of actual cases, and patients generally have suboptimal statin adherence. Given cost-effectiveness studies evaluating genetic screening for FH in Europe, similar screening strategies with adherence programs could be cost-effective in the US. The objective of this study is to conduct a cost-effectiveness analysis of lipid cascade screening, genetic cascade screening, and lipid cascade screening plus statin adherence program for FH diagnosis and treatment in terms of incremental cost-effectiveness ratios (ICERs) between strategies. **METHODS:** A Markov model with transition probabilities derived from published literature was used to model screening strategies. Because the model assumes an initial cohort of high cholesterol adults with a family history of FH, lipid cascade screening is the base case. US costs and quality of life data were obtained from published literature and public data. **RESULTS:** Genetic cascade screening is dominated by base case screening, with an ICER of $532,222/QALY between the two. While the lifetime costs of statin adherence programs exceed the onetime costs of genetic testing, lipid cascade screening with statin adherence program is the most cost-effective strategy with an ICER of $10,705/QALY compared to the base case. At a US willingness-to-pay of $150,000/QALY, net monetary benefit analysis suggests that genetic cascade screening will only produce non-negative benefits at screening costs of less than $1,700 per diagnosed case. **CONCLUSIONS:** Genetic cascade screening for FH is not cost-effective in a US setting. The addition of statin adherence programs is cost-effective, but lack of US FH studies suggests a need for further analyses.

PCV71

COMPARATIVE EFFECTIVENESS AND COST-EFFECTIVENESS OF CAROTID ARTERY STENT WITH EMBOLI PROTECTION DEVICE VERSUS CAROTID ENDARTERECTOMY: A RETROSPECTIVE COHORT STUDY USING NHI CLAIMS DATABASE IN TAIWAN

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OBJECTIVES: The objectives were to compare the effectiveness and cost-effectivness of carotid artery stent with emboli protection device (CAS+EPD) and carotid endarterectomy (CEA). **METHODS:** A retrospective cohort during 2001-2012 was built using NHI database. Outcomes events cumulative incidence rate of death, stroke, death or stroke, and MI occurring 30 days peri-procedure, 1 year and 8 years after procedure, were analyzed as comparative effectiveness. The transitional probabilities of various outcomes were adopted from comparative effectiveness results by Weibull distribution. Kaplan Meier sample average method was applied for medical cost. A Markov model was built to simulate the lifetime QALYs and medical costs estimation. **RESULTS:** A total of 3,359 and 543 patients were included in CAS+EPD and CEA groups. In comparative effectiveness, the incidences of safety outcomes in stroke (2.2% vs. 2.0%), death (0.7% vs. 1.5%), and death or stroke (2.7% vs. 2.9%) did not differ significantly between CAS+EPD and CEA within 30 days post procedure. A one-year follow-up revealed that CEA was associated with higher risks of stroke (hazard ratio: 2.72, 95%CI: 1.61-4.61) and death or stroke (HR: 2.00, 95%CI: 1.33-3.02) than CAS+EPD. Long term follow-up results demonstrated CEA had a higher risk in stroke (HR: 1.61, 95%CI: 1.09-2.37) only. The hospitalization cost were $5,600±2,500 in CAS+EPD and $ 4,800±6,100 in CEA, the total medical expense during the first year were $11,600 and $10,000, respectively. Life-long medical cost estimation revealed $28,700 for CAS+EPD and $31,300 for CEA. Cost-effectiveness analysis showed CAS+EPD had 0.59 life years (LYs) gained better than CEA (9.24 LYs vs. 8.65 LYs). The QALYs for CAS+EPD and CEA were 8.12 and 6.99, respectively. Overall, the results demonstrated CAS+EPD to be the dominant strategy. **CONCLUSIONS:** Retrospective cohort database analysis demonstrated CAS+EPD was more effective and also less expensive than CEA. Under current NHI reimbursement, the CAS+EPD was a cost-effective strategy.

PCV72

COST-EFFECTIVENESS OF DABIGATRAN FOR STROKE PREVENTION IN ATRIAL FIBRILLATION IN CHINA

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OBJECTIVES: Warfarin has been the standard oral anticoagulant for stroke prevention in patients with atrial fibrillation (AF). However, it has an increased risk of bleeding and a narrow therapeutic range which required frequent monitoring of the International Normalized Ratio (INR) and dose adjustments. Dabigatran, a novel oral anticoagulant, has demonstrated to be at least as effective and as safe as warfarin, and shown to be cost-effective in Canada and UK. Recently, dabigatran received approval in China. In this study, we aim to assess the potential cost-effectiveness of dabigatran for the prevention of stroke and systemic embolism among patients with AF as compared to warfarin as a first-line therapy, from the payer perspective in China. **METHODS:** An individual level simulation model was developed to simulate the clinical events and outcomes under different treatment pathways over a patient's remaining lifetime. The model explicitly incorporated an INR control component to account for heterogeneous use of warfarin in different populations and in settings. Input data were derived from the published literature, NICE STA reports, and expert inputs. Patient baseline profiles were based on China Registry of AF (CRAF), a multicenter, cross-sectional study of 3551 AF patients in mainland China. **RESULTS:** Comparing to warfarin first-line use among patients eligible for anticoagulants, dabigatran was associated with 0.40 fewer ischemic stroke, 0.11 fewer systemic embolism, 0.19 fewer hemorrhagic stroke, 0.30 fewer intracranial hemorrhage, 1.33 more extra-cranial hemorrhage and 0.38 more acute myocardial infarction, per 100 patient-year. Predicted incremental costs and QALYs are US$ 13527.88 and 0.23, respectively, resulting an ICER of US$ 59546.08 per QALY gained. The result was sensitive to the cost of dabigatran cost, warfarin-related cost, and INR control assumptions. **CONCLUSIONS:** The cost-effectiveness of new anticoagulation therapy should be considered when making treatment recommendations. Further economic evaluation of appropriate use of dabigatran in China setting is needed.

PCV73

COST EFFECTIVENESS OF MINIMALLY INVASIVE CARDIAC SURGERY VERSUS CONVENTIONAL APPROACH IN CARDIAC VALVE SURGICAL REPLACEMENT IN COLOMBIA

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OBJECTIVES: Cost-Effectiveness analysis of Minimally Invasive Cardiac Surgery (MICS) vs. Conventional Approach (CA) for surgical valve replacement in Colombia. **METHODS:** An analytical decision model was considered with any immediate severe complication avoided and total cost at the end of the hospitalization as the endpoint results. A deterministic and probabilistic Excel model was developed. Complications rates and costs were taking from 240 registries in a period of time between 01-2010 and 10-2012, from Cardiovascular Clinic Cardiovid at Medellin Colombia. Colombian Health System payer perspective was assumed and reimbursement prices were considered as the final costs for the procedures, including those until hospital discharge. Because only one cycle was considered there was no need to apply a discount rate. The deterministic ICER calculations analysis was done including a univariate sensitivity analysis. For the Probabilistic Sensitivity Analysis a Monte Carlo Simulation with 1000 iterations was done. **RESULTS:** The complications avoided probability with MICS was 0.73 compared to 0.57 with CA. The total cost was US$14.330 for MICS compared to US$ 13.006 for CA with an ICER of US$ 8.326